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Microfacies analysis of foraminifera rich sedimentary rocks from the Desert Plateau, central Egypt.

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Microfacies analysis on some samples from the Thebes Group have been carried on by means of thin sections. The study area is included in the Libyan Desert Plateau (central Egypt) at following coordinates N27˚36'30.58" E29˚44'58.34", near the biggest dune of Egypt, the Ghard Abu Muharik. Because of the round shape of the rocks and the desert patina on the surface they could easily be classified as the so called "Melonstones", which are located more southwards and mainly composed by stromatolites. On the contrary, the investigated samples show a completely different fauna and therefore have been separated from the "Melonstones". Even if shape and size are very similar and the desert patina covers all surfaces the same way the differences are impressive. To investigate the samples, two thin-sections have been prepared and analyzed at the microscope. The observed fauna is composed by: agglutinated benthic foraminifera (e.g., *Dictyoconus egypticus*), complex larger miliolids (e.g., *Pseudolacazina cf. danatae*, *Fabularia sp.*), alveolinids (*Alveolina vredenburgi*), green algae (*Dasycladaceae*), echinoids and corals. Because of the presence of symbionts bearing larger benthic foraminifera, which need light to feed photosymbionts, the rock was formed in a shallow water environment. With the abundant rock-building benthic foraminifera and calcareous algae the limestone shows a tendency to the packstone/wackestone facies. Based on the presence of *Alveolina vredenburgi*, the age of the samples can be estimate as lowermost Eocene belonging to the shallow benthic zone 5 (sensu Serra-Kiel et al., 1998). According the obtained data on stratigraphy and palaeoecology, a partial palaeoenvironmental reconstruction is possible for the Libyan Desert Plateau where outcrops are largely missing.

Because of the round shape of the samples and the patina which covers them all around it can be assumed that they have been transported from longer distance. According to the geological map of the area and to the fauna observed in the sections, the source of the samples can be related to the Farafra Formation, which is characterized by white to grey alveolinid shallow water limestone. The closest outcrop belonging to this formation can be found around 50 kilometers westwards from the location where the samples were taken.

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